

AMENDMENTS TO THE SPECIFICATION

Please delete the sequence listing from the international application and replace it with the sequence listing submitted on compact disc enclosed herewith.

In the specification at page 1, after the title and before line 3, please insert the following new paragraphs:

RELATED APPLICATIONS

This application is a national stage application (under 35 U.S.C. 371) of PCT/EP2005/001863 filed February 23, 2005, and claims benefit of German application 10 2004 009 457.8 filed February 27, 2004; German application 10 2004 012 370.5 filed March 13, 2004; German application 10 2004 017 518.7 filed April 8, 2004; German application 10 2004 024 014.0 filed May 14, 2004; PCT application PCT/EP2004/07957 filed June 16, 2004; and German application 10 2004 062 543.3 filed December 24, 2004.

SUBMISSION ON COMPACT DISC

The contents of the following submission on compact discs are incorporated herein by reference in its entirety: two copies of the Sequence Listing (COPY 1 and COPY 2) and a computer readable form copy of the Sequence Listing (CRF COPY), all on compact disc, each containing: file name: "Sequence Listing-13987-00020-US", date recorded: August 24, 2006, size: 612KB.

In the specification at page 132, please replace Table 13 with the following amended Table 13:

| <u>Ostreococcus tauri desaturases</u> | | | | | | | |
|--|-----------|-----------|---------------------------|------------------------|-------------------------|-----------------------------------|---------------------------------|
| Name | bp | aa | Homology | Cyt. B5 | His box1 | His box2 | His box3 |
| OtD4 | 1611 | 536 | Δ 4- desaturase | HPGG (SEQ ID NO: | HCANH (SEQ ID NO: | WRYHHQVSHH (SEQ ID NO: 231) | QVEHHLFP (SEQ ID NO: 235) |

| | | | | <u>227)</u> | <u>228)</u> | | |
|--------|------|-----|----------------------------|---------------------------------------|--|-----------------------------------|---------------------------------|
| OtD5.1 | 606 | 201 | Δ 5- desaturase | - | - | - | QVVHHLFP (SEQ ID NO: 236) |
| OtD5.2 | 714 | 237 | Δ 5- desaturase | - | - | WRYHHMVSHH (SEQ ID NO: 232) | QIEHHLFP (SEQ ID NO: 237) |
| OtD6.1 | 1443 | 480 | Δ 6- desaturase | HPGG (SEQ ID NO: <u>227)</u> | HEGGH (SEQ ID NO: <u>229)</u> | WNSMHNKHH (SEQ ID NO: 233) | QVIHHLFP (SEQ ID NO: 238) |
| OtFAD2 | 1086 | 361 | Δ 12- desaturase | - | HECGH (SEQ ID NO: <u>230)</u> | WQRSHAVHH (SEQ ID NO: 234) | HVAHH (SEQ ID NO: 239) |

In the specification at page 137, please replace Table 14 with the following amended Table 14:

| Desaturase | cDNA (bp) | Protein (aa) | Cyt. B5 | His box1 | His box2 | His box3 |
|------------|--------------|-----------------|-----------------------------|------------------------------|--------------------------------|---------------------------------|
| | | | | | | |
| TpD4 | 1512 | 503 | HPGG (SEQ ID NO: 227) | HDGNH (SEQ ID NO: 240) | WELQHMLGHH (SEQ ID NO: 244) | QIEHHLFP (SEQ ID NO: 250) |
| TpD5-1 | 1431 | 476 | HPGG (SEQ ID NO: 227) | HDANH (SEQ ID NO: 241) | WMAQHWTHH (SEQ ID NO: 245) | QVEHHLFP (SEQ ID NO: 235) |
| TpD5-2 | 1443 | 482 | HPGG (SEQ ID | HDANH (SEQ ID | WLAQHWTHH (SEQ ID NO: 246) | QVEHHLFP (SEQ ID NO: |

| | | | | | | |
|-----------------|------|-----|-----------------------------|------------------------------|---------------------------------|---------------------------------|
| | | | <u>NO: 227)</u> | <u>NO: 241)</u> | | <u>235)</u> |
| TpD6 | 1449 | 484 | HPGG (SEQ ID NO: 227) | HDFLH (SEQ ID NO: 242) | WKNKHNGHH (SEQ ID NO: 247) | QVDHHLFP (SEQ ID NO: 251) |
| TpFAD2 (d12) | 1305 | 434 | - | HECGH (SEQ ID NO: 230) | HAKHH (SEQ ID NO: 248) | HVAHHLFH (SEQ ID NO: 252) |
| TpO3 | 1257 | 419 | - | HDAGH (SEQ ID NO: 243) | WLFMVTYLQHH (SEQ ID NO: 249) | HVVHHLF (SEQ ID NO: 253) |

In the specification at page 153, please replace the Table under line 18 with the following amended Table:

| Name of primer | Sequence 5'-3' orientation | Corresponding amino acids |
|--------------------|--|---------------------------------|
| Phaelo forward1 | AA(C/T)CTUCTUTGGCTUTT(C/T)TA (SEQ ID NO: 185) | NLLWLFY (SEQ ID NO: 254) |
| Phaelo reverse1 | GA(C/T)TGUAC(A/G)AA(A/G)AA(C/T)TGUG C(A/G)AA (SEQ ID NO: 186) | FAQFFVQS (SEQ ID NO: 255) |

In the specification at page 159, line 29, please replace the paragraph starting with “CnI1 C 5’” with the following amended paragraph:

CnI1 C 5’: gaattcggcgcgccgagctcctcgagcaacggtccggcggtatagagtgggtaattcga (SEQ ID NO: 203)
CnI1 C 3’: cccgggatcgatgccggcagatctccaccatttttggtggtgat (SEQ ID NO: 204)

In the specification at page 160, line 27, please replace the paragraph starting with “OCS_C 5’” with the following amended paragraph:

OCS_C 5’: aggcctccatggcctgctttaatgatatgcgagacgcc (SEQ ID NO: 205)
OCS_C 3’: cccgggccggacaatcagtaaattgaacggag (SEQ ID NO: 206)

In the specification at page 161, line 20, please replace the paragraph starting with “CnI1-B 5’” with the following amended paragraph:

Cnl1-B 5': aggcctcaacggttccggcggtatag (SEQ ID NO: 207)

Cnl1-B 3': cccggggttaacgctagcgggccgatatcggtatccatttttgggtggtgattggttct (SEQ ID NO: 208)

In the specification at page 162, line 12, please replace the paragraph starting with "OCS2 5'" with the following amended paragraph:

OCS2 5': aggcctcctgctttaatgagatatgcgagac (SEQ ID NO: 209)

OCS2 3': cccgggcggacaatcagtaaattgaacggag (SEQ ID NO: 210)

In the specification at page 163, line 4, please replace the paragraph starting with "Cnl1-B 5'" with the following amended paragraph:

Cnl1-B 5': aggcctcaacggttccggcggtatagag (SEQ ID NO: 211)

Cnl1-B 3': aggccttctagactgcaggcggccgccgcatttttgggtggtgattggt (SEQ ID NO: 212)

In the specification at page 163, line 33, please replace the paragraph starting with "OCS2 5'" with the following amended paragraph:

OCS2 5': ggcctcctgctttaatgagatatgcga (SEQ ID NO: 213)

OCS2 3': aagcttggcgcgccgagctcgtcgacggacaatcagtaaattgaacggaga (SEQ ID NO: 214)

In the specification at page 164, line 28, please replace the paragraph starting with "D6Des(Pir) 5'" with the following amended paragraph:

D6Des(Pir) 5': agatctatggttgacctcaagcctggagtg (SEQ ID NO: 215)

D6Des(Pir) 3': ccatggccccgggttacatcgctgggaactcgtgat (SEQ ID NO: 216)

In the specification at page 165, line 21, please replace the paragraph starting with "D5Des(Tc) 5'" with the following amended paragraph:

D5Des(Tc) 5': gggatccatgggcaagggcagcgagggccg (SEQ ID NO: 217)

D5Des(Tc) 3': ggcgccgacaccaagaagcaggactgagatc (SEQ ID NO: 218)

In the specification at page 166, line 16, please replace the paragraph starting with "D6Elo(Pp) 5'" with the following amended paragraph:

D6Elo(Pp) 5': gcggccgcatggaggtcgtggagagattctacggtg (SEQ ID NO: 219)

D6Elo(Pp) 3': gcaaaagggagctaaaactgagtgatctaga (SEQ ID NO: 220)

In the specification at page 167, line 22, please replace the paragraph starting with "Cnl1_OCS 5'" with the following amended paragraph:

Cnl1_OCS 5': gtcgatcaacggttccggcggtatagagttg (SEQ ID NO: 221)

Cnl1_OCS 3': gtcgatcggacaatcagtaaattgaacggaga (SEQ ID NO: 222)

In the specification at page 168, line 14, please replace the paragraph starting with
“D12Des(Co) 5’” with the following amended paragraph:

D12Des(Co) 5': agatctatgggtgcaggcggtcgaatgc (SEQ ID NO: 223)

D12Des(Co) 3': ccatggttaaatcttattacgatacc (SEQ ID NO: 224)

In the specification at page 170, line 19, please replace the paragraph starting with
“TL16y2 5’” with the following amended paragraph:

TL16y2 5': agatct atggacgtcgtcgagcagca (SEQ ID NO: 225)

TL16y2 3': ccatggcccggg agaagcagaagaccatctaa (SEQ ID NO: 226)